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Group 3700

Attorney Docket No. 17634-000320

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of )  
Brian R. Murphy et al. )  
Serial No. 09/083,793 )  
Filed: May 22, 1998 )  
For: PRODUCTION OF ATTENUATED )  
PARAINFLUENZA VIRUS )  
VACCINES FROM CLONED )  
NUCLEOTIDE SEQUENCES )

Examiner: M. Mosher

Art Unit: 1643

INFORMATION  
DISCLOSURE STATEMENT

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GROUP 1800

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir:

Applicants direct the Examiner's attention to the references below, also listed on the accompanying Form PTO-1449. A copy of each is also enclosed.

The following U.S. Patents are set forth by issued date:

AA. U.S. Patent No. 5,716,821, issued February 10, 1998 to Wertz et al.

AB. U.S. Patent No. 5,789,229, issued August 4, 1998 to Wertz et al.

The following foreign patent publication is set forth below:

- AC. WO 97/06270, published 2/20/97
- AD. WO 97/11093, published 3/27/97
- AE. WO 97/20468, published 6/12/97
- AF. EP 0 440 219 A1, published 8/7/91
- AG. EP 0 702 085 A1, published 3/20/96

The following articles are set forth alphabetically by inventor:

AH. Belshe et al., "Cold Adaptation of Parainfluenza Virus Type 3: Induction of Three Phenotypic Markers," J. Med. Virol. 10:235-42 (1982).

AI. Blumberg et al., "Measles Virus L Protein Evidences Elements of Ancestral RNA Polymerase," Virology 164:487-497 (1988).

AJ. Collins et al., "Parainfluenza Viruses," Fields Virology 3rd ed., Lippincott-Raven Publishers, Philadelphia 1205-1241, (1996).

AK. Collins et al., "Production of infectious human respiratory syncytial virus from cloned cDNA confirms an essential role for the transcription elongation factor from the 5' proximal open reading frame of the M2 mRNA in gene expression and provides a capability for vaccine development," Proc. Natl. Acad. Sci. USA 92:11563-11567, 1995.

AL. Conzelmann, "Genetic manipulation of non-segmented negative-strand RNA viruses," J. Gen. Virol. 77:381-89 (1996)

AM. Cook et al., "In Vivo antigenic Studies of Parainfluenza Viruses," Amer. Jour. Hyg. 77:150, 1963.

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AR. Flexner et al., "Prevention of vaccinia virus infection in immunodeficient mice by vector-directed IL-2 expression," Nature 33:259-262, 1987.

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AW. Garcin et al., "A highly recombinogenic system for the recovery of infectious Sendai paramyxovirus from cDNA: generation of a novel copy-back nondefective interfering virus," EMBO J. 14(24):6087-6094 (1995).

AX. Grosfeld et al., "RNA Replication by Respiratory Syncytial Virus (RSV) Is Directed by the N, P, and L Proteins; Transcription Also Occurs under These Conditions but Requires RSV Superinfection for Efficient Synthesis of Full-Length mRNA," J. Virol. 69: 5677-5686 (1995).

AY. Hall et al., "Cold-passaged human parainfluenza type 3 viruses contain *ts* and non-*ts* mutations leading to attenuation in rhesus monkeys," Virus Res. 22(3):173-184, 1992.

AZ. Karron et al., "A Live Attenuated Bovine Parainfluenza Virus Type 3 Vaccine Is Safe, Infectious, Immunogenic, and Phenotypically Stable in Infants and Children," J. Infect. Dis. 171:1107-1114, 1995.

BA. Kast et al., "Protection against lethal Sendai virus infection by *in vivo* priming of virus-specific cytotoxic

T lymphocytes with a free synthetic peptide," Proc. Natl. Acad. Sci. USA 88:2283-2287, 1991.

BB. Kunkel et al., "Rapid and Efficient Site-Specific Mutagenesis without Phenotypic Selection," Methods Enzymol. 154: 367-382, (1987).

BC. Lawson et al., "Recombinant vesicular stomatitis viruses from DNA," Proc. Natl. Acad. Sci. U.S.A. 92:4477-81 (1995).

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BH. Pelet et al., "The P gene of bovine parainfluenza virus 3 expresses all three reading frames from a single mRNA editing site," EMBO J. 10:443-448 (1991).

BI. Radecke et al., "Rescue of measles viruses from cloned DNA," EMBO J. 14:5773-5784 (1995).

BJ. Ray et al., "Human Parainfluenza virus Induces a Type-Specific Protective Immune Response," J. Infect. Dis. 162:746, 1990.

BK. Ray et al., "Temperature-Sensitive Phenotype of the Human Parainfluenza virus Type 3 Candidate Vaccine Strain (cp45) Correlates with a Defect in the L Gene," J. Virol. 70:580-584 (1996).

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BM. Schnell et al., "Infectious rabies viruses from cloned cDNA," EMBO J. 13:4195-203 (1994).

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BP. Stokes et al., "The complete nucleotide sequence of the JS strain of human parainfluenza virus type 3: comparison with the Wash/47885/57 prototype strain," Virus Res. 25:91-103 1992.

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BT. Thomson et al., "Recombinant Polyepitope Vaccines for the Delivery of Multiple CD8 Cytotoxic T Cell Epitopes," J. Immunol. 157:822, 1996.

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BV. van Wyke Coelingh et al., "Antigenic Variation in the Hemagglutinin-Neuraminidase Protein of Human Parainfluenza Type 3 Virus," Virology 143(2):569-582, 1985.

BW. Whelan et al., "Efficient recovery of infectious vesicular stomatitis virus entirely from cDNA clones," Proc. Natl. Acad. Sci. USA 92:8388-8392 (1995).

It is respectfully requested that the cited information be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

Applicants believe that their invention as claimed is patentable over the above references taken alone or in any combination. However, Applicants reserve the right to demonstrate that their claimed invention was made prior to any one or more of the above-identified references. No inference should be drawn as to the pertinence of the references based on the order in which they are presented.

Applicants respectfully request that the Examiner review the foregoing references to make his own determination of the patentability of the present invention and that the references be made of record in the file of this application.

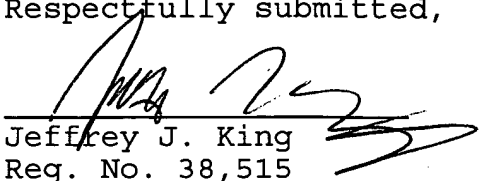
This Information Disclosure Statement is being filed before any action on the merits.

Although no fee is believed to be due, the Commissioner is hereby authorized to charge any fees necessitated by this transmittal to Townsend and Townsend and Crew Deposit Account No. 20-1430.

Respectfully submitted,

Date: 1/25/99

By:

  
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References

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